

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2005/000550

International filing date (day/month/year)
14.01.2005

Priority date (day/month/year)
04.02.2004

International Patent Classification (IPC) or both national classification and IPC
E04H12/08, F03D11/04

Applicant
CORUS STAAL BV

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2005/000550

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
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Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application,
- ☒ claims Nos. the specified variant of claim 14, in which the claimed stiffening means are composed of one or more preferably substantially horizontal stiffening rings

because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☒ no international search report has been established for the whole application or for said claims Nos. the specified variant of claim 14, when not dependent on claim 12, in which the claimed stiffening means are composed of one or more preferably substantially horizontal stiffening rings
- ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:
 - the written form ☐ has not been furnished
 - ☐ does not comply with the standard
 - the computer readable form ☐ has not been furnished
 - ☐ does not comply with the standard
- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.
- ☐ See separate sheet for further details

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
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Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has:
- ☐ paid additional fees.
 - ☐ paid additional fees under protest.
 - ☒ not paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- ☐ complied with
 - ☒ not complied with for the following reasons:
see separate sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☐ all parts.
 - ☒ the parts relating to claims Nos. 1-16, excluding the specified variant of claim 14, when not dependent on claim 12, in which the claimed stiffening means are composed of one or more preferably substantially horizontal stiffening rings

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-16
Inventive step (IS)	Yes: Claims	
	No: Claims	1-16
Industrial applicability (IA)	Yes: Claims	1-16
	No: Claims	

2. Citations and explanations

see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/EP2005/000550

1 Re Item IV.

1.1 The separate inventions/groups of inventions are:

1-16

Tower for a wind turbine according to at least claim 1, wherein the first flange of at least one prefabricated metal wall part is vertically staggeredly attached to the second flange on an adjacent prefabricated wall part, these features being as defined in claim 1, and further variants of this subject matter as defined in claims dependent therefrom, with the exception of the variant of the features introduced by claim 14 whereby the tower's stiffening means consist of one or more stiffening rings.

One specified variant of claim 14

Tower for a wind turbine according to at least claim 1, wherein the tower is provided with one or more stiffening rings.

1.2 They are not so linked as to form a single general inventive concept (Rule 13.1 PCT) for the following reasons:

Document EP-A-0 960 986 ("D1"), which may be regarded as representing the closest state of the art with respect to the first invention described above, discloses (see in particular figs 13 and 14):

a prefabricated metal part (14) suitable for use* in a tower for a wind turbine (cf. fig 1) according to any of claims 1-13, whereby said prefabricated metal wall part comprises an essentially quadrangular portion having an outwardly facing surface and an inwardly facing surface, said portion having top edge, a first side edge and a second side edge, wherein the first side edge is provided with a first flange along at least part of the length of the first side edge and wherein the second side edge is provided with a second flange along at least part of the length of the second side edge.

The combination of all of the features of claim 14 is therefore already known from the prior art.

(*cf. International Search and Preliminary Examination Guidelines 5.23)

Furthermore, D1 also discloses (see figs 1-3 and 13-29):

a tower (6) for a wind turbine wherein the tower has an exterior side and an interior side, and wherein the tower is at least partly composed of prefabricated metal wall parts (14) wherein each wall part comprises the features mentioned above.

The combination of all of the features of claim 1 is therefore already known from the prior art.

Moreover, since D1 also discloses a method of constructing a tower for a wind turbine according to at least claim 1, wherein the tower is at least partly composed of prefabricated metal wall parts comprising the features mentioned above, the combination of all of the features of claim 15 is also already known from the prior art.

D1 also discloses, in combination with the features mentioned above in relation to claim 1, all of the non-optional features introduced by dependent claims 2-11 and 13, along with "stiffening means", albeit not of the sort described in the optional variant referred to in claim 14, whereby the subject matter of these claims also lacks novelty (Art. 52(1) and 54(1) and (2) EPC).

However, since the combination of the features of dependent claim 12 appears to be neither known from, nor rendered obvious by, the available prior art, the features introduced by this claims may be regarded as the "Special Technical Features" ("STF"s) of the first-claimed invention, as defined in Rule 13.2 PCT.

Furthermore, since the optional variant mentioned in claim 14 when in combination with of the features of any of the variants of claim combinations from it depends appears to be neither known from, nor rendered obvious by, the available prior art, the features introduced in this variant of claim 14 (cf. Rule 13.3 PCT), in all variants of dependency which do not include the features introduced by claim 12, may be regarded as the S.T.F.'s of the second-claimed invention, as defined in Rule 13.2 PCT.

The above-mentioned respective S.T.F's are obviously not the same.

Solutions to the general problem of stiffening a wind turbine tower are already known from the prior art (see for example D1). Restricting the assessment to the specific technical problems over and above what is already known from the prior art in order to establish the specific technical significance of each group of S.T.F's and thus of their respective contributions over the prior art, the respective objective technical problems addressed by the above-mentioned STF's themselves are as follows:

Claim 12: to reduce the overall force exerted on connections between the horizontal flanges of successive rings of prefabricated wall parts by increasing the connection-length between adjacent rings of prefabricated parts and by allowing a proportion these forces to be resisted the interlocking portions of wall parts within the height of the staggered connections.

Specified variant of Claim 14: to absorb horizontal forces exerted on the tower (i.e. provide horizontal reinforcement) and to contribute to the even distribution of these forces over the circumference of the tower

Since, disregarding any broad common aspects which are also already known from the prior art, these problems are different, the above-mentioned S.T.F's cannot be regarded as being mutually corresponding in the meaning of Rule 13.2 PCT.

Therefore there is no technical relationship amongst these two groups of inventions which involves one or more of the same or corresponding special technical features and the single general inventive concept required by Rule 13.1 PCT absent.

2 Re Item V.

2.1 Reference is made to the following document:

D1 : EP 0 960 986 A (ARAND WILFRIED) 1 December 1999 (1999-12-01)

2.2 INDEPENDENT CLAIMS 1, 15 and 16

Document D1 discloses (see in particular figs 13 and 14):

a prefabricated metal part (14) suitable for use* in a tower for a wind turbine (cf. fig 1) according to any of claims 1-14, whereby said prefabricated metal wall part comprises an essentially quadrangular portion having an outwardly facing surface and an inwardly facing surface, said portion having top edge, a first side edge and a second side edge, wherein the first side edge is provided with a first flange along at least part of the length of the first side edge and wherein the second side edge is provided with a second flange along at least part of the length of the second side edge.

The combination of all of the features of claim 15 is therefore already known from the prior art.

(cf. International Search and Preliminary Examination Guidelines 5.23)

Furthermore, D1 also discloses (see figs 1-3 and 13-29):

a tower (6) for a wind turbine wherein the tower has an exterior side and an interior side, and wherein the tower is at least partly composed of prefabricated metal wall parts (14) wherein each wall part comprises the features mentioned in paragraph 2.1 above.

The combination of all of the features of claim 1 is therefore already known from the prior art.

Moreover, since D1 also discloses a method of constructing a tower for a wind turbine according to at least claim 1, wherein the tower is at least partly composed of prefabricated metal wall parts comprising the features mentioned in paragraph 2.1 above, the combination of all of the features of claim 16 is also already known from the prior art.

As can be seen from the above, document D1 discloses in combination all the features defined in independent claims 1, 15 and 16. Hence the subject-matter of these claims is not new (Article 33(2) PCT).

2.3 DEPENDENT CLAIMS 2-11, 13 and 14

Dependent claims 2-11, 13 and 14 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty (Article 33(2) PCT), since D1 also discloses, in combination with the features of claim 1, all of the non-optional features introduced by each of these claims.

2.4 DEPENDENT CLAIM 12

The combination of the features of dependent claim 12 appears to be neither known from, nor rendered obvious by, the available prior art.